

Office Action Summary

Application No.

09/978,515

Applicant(s)

ZARE ET AL.

Examiner

Ernest G. Therkorn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on June 30, 2003 & December 4, 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-35 is/are pending in the application.
- 4a) Of the above claim(s) 12-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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The amendment filed December 4, 2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The matter added in the replacement of paragraph 39 on page 6 of the specification.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. No support can be found for the term "metalloid".

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dulay (Anal. Chem. 1998, 70, 5103-5107 in view of Viklund (Chem. Mater. 1997, 9, 463-471) and each of Nakanishi (U.S. Patent No. 5,624,875), Cabrera (U.S. Patent No. 6,398,962), and Holloway (U.S. Patent No. 6,210,570). The claims differ from Dulay

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(Anal. Chem. 1998, 70, 5103-5107 in implying use of photoinitiated polymerization and reciting use of a bonded phase. Viklund (Chem. Mater. 1997, 9, 463-471) (Abstract) discloses that the advantages of photoinitiated polymerization are ease of preparation, short time needed for reaction, and the possibility of running the reaction at a low temperature. Nakanishi (U.S. Patent No. 5,624,875) (column 1, lines 5-22, column 4, lines 25-30, column 6, line 63-column 7, line 5, and column 13, lines 30-33) discloses use of a bonded phase in a sol-gel column allows use of a shorter column. Cabrera (U.S. Patent No. 6,398,962) (column 3, line 33 and 56-67, column 11, line 36) discloses that bonding additional groups called separation effectors improves separation in a sol-gel column. Holloway (U.S. Patent No. 6,210,570) (column 3, lines 62-64 and column 8, lines 8-19) discloses use of a bonded phase in a sol-gel column allows tailoring to a variety of chromatographic separation. It would have been obvious to use photoinitiated polymerization in Dulay (Anal. Chem., 70, 1998 pages 5103-5107) because Viklund (Chem. Mater. 1997, 9, 463-471) (Abstract) discloses that the advantages of photoinitiated polymerization are ease of preparation, short time needed for reaction, and the possibility of running the reaction at a low temperature. It would have been obvious to use a bonded phase in Dulay (Anal. Chem., 70, 1998 pages 5103-5107) either because Nakanishi (U.S. Patent No. 5,624,875) (column 1, lines 5-22, column 4, lines 25-30, column 6, line 63-column 7, line 5, and column 13, lines 30-33) discloses use of a bonded phase in a sol-gel column allows use of a shorter column or because Cabrera (U.S. Patent No. 6,398,962) (column 3, line 33 and 56-67, column 11, line 36) discloses that bonding additional groups called separation effectors improves

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separation in a sol-gel column, or because Holloway (U.S. Patent No. 6,210,570) (column 3, lines 62-64 and column 8, lines 8-19) discloses use of a bonded phase in a sol-gel column allows tailoring to a variety of chromatographic separation.

Claims 1-5 and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over each of Nakanishi (U.S. Patent No. 5,624,875), Cabrera (U.S. Patent No. 6,398,962), and Holloway (U.S. Patent No. 6,210,570) in view of Viklund (Chem. Mater. 1997, 9, 463-471). At best, the claims differ from each of Nakanishi (U.S. Patent No. 5,624,875), Cabrera (U.S. Patent No. 6,398,962), and Holloway (U.S. Patent No. 6,210,570) in implying use of photoinitiated polymerization. Viklund (Chem. Mater. 1997, 9, 463-471) (Abstract) discloses that the advantages of photoinitiated polymerization are ease of preparation, short time needed for reaction, and the possibility of running the reaction at a low temperature. It would have been obvious to use photoinitiated polymerization in each of Nakanishi (U.S. Patent No. 5,624,875), Cabrera (U.S. Patent No. 6,398,962), and Holloway (U.S. Patent No. 6,210,570) because Viklund (Chem. Mater. 1997, 9, 463-471) (Abstract) discloses that the advantages of photoinitiated polymerization are ease of preparation, short time needed for reaction, and the possibility of running the reaction at a low temperature.

The remarks urge that Dulay (Anal. Chem. 1998, 70, 5103-5107) does not disclose a metal organic photopolymer. Dulay (Anal. Chem. 1998, 70, 5103-5107) is considered to disclose a metal organic photopolymer because his polymer is made from a metal alkoxide precursor. Dulay (Anal. Chem. 1998, 70, 5103-5107) discloses tetraethyl orthosilicate, a metal alkoxide precursor, on page 5104, column 1, the ninth

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line of paragraph 3. The method of making the final product is not considered to negate that the two final products are the same.

The remarks urge that Dulay (Anal. Chem. 1998, 70, 5103-5107) does not disclose the absence of particles. Although Dulay (Anal. Chem. 1998, 70, 5103-5107) does disclose particles have many desirable properties such as in the Abstract, lines 6-9's prevention of cracking, matrices without particles have been disclosed. However, the typical prior art monolith on page 5104, column 1, lines 3-7 of Dulay (Anal. Chem. 1998, 70, 5103-5107) does not have particles. On page 5104, column 1, lines 15-17 of Dulay (Anal. Chem. 1998, 70, 5103-5107), molecules are disclosed to be embedded in lieu of particles. On page 5105, column 1, lines 1-2 of Dulay (Anal. Chem. 1998, 70, 5103-5107), column sections are disclosed to be made without ODS particles. Page 5105, column 2, lines 8-11 and page 5106, column 2, lines 14-17 of Dulay (Anal. Chem. 1998, 70, 5103-5107) disclose that sol-gel columns without particles were made for comparison purposes. As such, Dulay (Anal. Chem. 1998, 70, 5103-5107) is considered to disclose the recited sol-gel column without particles are known.

The remarks urge that there is no motivation to combine Dulay (Anal. Chem. 1998, 70, 5103-5107) and Viklund (Chem. Mater. 1997, 9, 463-471). However, Viklund (Chem. Mater. 1997, 9, 463-471) (Abstract) discloses that the advantages of photoinitiated polymerization are ease of preparation, short time needed for reaction, and the possibility of running the reaction at a low temperature. As such, motivation exists to use photoinitiated polymerization in Dulay (Anal. Chem., 70, 1998 pages 5103-5107) because Viklund (Chem. Mater. 1997, 9, 463-471) (Abstract) discloses that the

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advantages of photoinitiated polymerization are ease of preparation, short time needed for reaction, and the possibility of running the reaction at a low temperature.

The remarks urge each of Nakanishi (U.S. Patent No. 5,624,875), Cabrera (U.S. Patent No. 6,398,962), and Holloway (U.S. Patent No. 6,210,570) does not disclose a metal organic photopolymer. Each of Nakanishi (U.S. Patent No. 5,624,875), Cabrera (U.S. Patent No. 6,398,962), and Holloway (U.S. Patent No. 6,210,570) is considered to disclose a metal organic photopolymer because each of Nakanishi (U.S. Patent No. 5,624,875), Cabrera (U.S. Patent No. 6,398,962), and Holloway (U.S. Patent No. 6,210,570)'s polymer is made from a metal alkoxide precursor. Nakanishi (U.S. Patent No. 5,624,875) discloses use of a metal alkoxide on column 5, lines 61-63. Cabrera (U.S. Patent No. 6,398,962) discloses use of a metal alkoxide on column 3, lines 25-33 and column 4, lines 1-3. Holloway (U.S. Patent No. 6,210,570) discloses use of a metal alkoxide on column 3, line 45-column 4, line 18. The method of making the final product is not considered to negate that the products of each of Nakanishi (U.S. Patent No. 5,624,875), Cabrera (U.S. Patent No. 6,398,962), and Holloway (U.S. Patent No. 6,210,570) and the claimed product are the same.

The remarks urge that there is no motivation to combine each of Nakanishi (U.S. Patent No. 5,624,875), Cabrera (U.S. Patent No. 6,398,962), and Holloway (U.S. Patent No. 6,210,570) and Viklund (Chem. Mater. 1997, 9, 463-471). However, Viklund (Chem. Mater. 1997, 9, 463-471) (Abstract) discloses that the advantages of photoinitiated polymerization are ease of preparation, short time needed for reaction, and the possibility of running the reaction at a low temperature. As such, motivation to

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use photoinitiated polymerization in each of Nakanishi (U.S. Patent No. 5,624,875), Cabrera (U.S. Patent No. 6,398,962), and Holloway (U.S. Patent No. 6,210,570) because Viklund (Chem. Mater. 1997, 9, 463-471) (Abstract) discloses that the advantages of photoinitiated polymerization are ease of preparation, short time needed for reaction, and the possibility of running the reaction at a low temperature.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

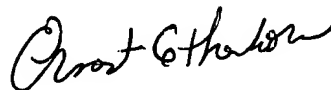
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication should be directed to E. Therkorn at telephone number (571) 272-1149. The official fax number is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ernest G. Therkorn
Primary Examiner
Art Unit 1723

EGT
March 17, 2004